# Turnaround times for Genetic/Genomic testing

As part of the introduction of the Genomic Medicine Service, turnaround times for Genetic/Genomic tests have been specified by NHS England. Not all tests listed are offered within Oxford, however pathways do exist to enable testing either within the Central and South GLH or nationally at one of the other six national GLHs. Turnaround times are provided from receipt of sample and all appropriate/required documentation.

**Solid Cancer:**

| Clinical Urgency | Sub-category | Calendar Days | Examples |
|---|---|---|---|
| Routine | Somatic Cancer | **14 days** | • NGS panels for molecular pathology referrals<br>• FISH testing<br>• Methylation array |
| Routine | Somatic Cancer | **28 days** | • MLH1 promoter hypermethylation<br>• HRD testing |
| Routine | Somatic Cancer comple x analysis | **42 – 84days** | • WGS: Validation/reporting of centralised WGS results after receipt at GLH is 42cd. Sample Submission may take 42cd prior to this. |

**Haemato-oncology:**

| Clinical Urgency | Sub-category | Calendar Days | Examples |
|---|---|---|---|
| Urgent | Somatic Cancer | **3 days** | • Rapid tests at AML diagnosis:<br>  • *FLT3* ITD and D835<br>  • *NPM1*<br>  • FISH for CBF AML<br>• Rapid tests at ALL diagnosis<br>  • FISH |
| urgent | Somatic Cancer | **7 days** | • Single PCR tests needed for diagnosis/treatment<br>  • *BRAF* V600E for HCL<br>  • *BCR::ABL1* transcript screen for CML<br>  • *IDH1* R132 for AML<br>• AML/ALL karyotype |
| urgent | Somatic Cancer | **14 days** | • NGS panels for new diagnosis AML<br>• SNP array for new diagnosis ALL |
| Routine | Somatic Cancer | **14 days** | • MRD monitoring for leukaemias<br>• *JAK2*<br>• FISH |
| Routine | Somatic Cancer | **21 days** | • NGS panels<br>• Clonality analysis<br>• Chimerism analysis<br>• Karyotype |
| Routine | Somatic Cancer complex analysis | **42 – 84days** | • WGS: Validation/reporting of centralised WGS results after receipt at GLH is 42cd. Sample Submission may take 42cd prior to this. |

**Rare Disease:**

| Clinical Urgency | Calendar Days | Examples |
|---|---|---|
| **URGENT** | **3 days** | • PCR-based tests where the result is needed urgently for prenatal diagnosis<br>• Rapid fetal and neonatal common aneuploidy testing<br>• Neonatal ambiguous genitalia |
| **URGENT** | **7 days** | • NIPT |
| **URGENT** | **14 days** | • Microarray for prenatal / urgent postnatal (e.g. neonatal referrals)<br>• Rapid common aneuploidy testing outside prenatal/neonatal setting.<br>• Urgent neonatal testing (targeted variant; karyotype; FISH)<br>• Other urgent targeted testing, known familial variant (e.g. pregnancy)<br>• WGS (trio recommended) for acutely unwell children with a likely monogenic disorder (R14). |
| **Routine** | **14 days** | • Predictive testing for known familial variants<br>• PCR based tests for confirmation of neonatal results/neonatal screening |
| **URGENT** | **21 days** | • Urgent single gene and gene panel sequencing for relevant indications excluding WGS-related test codes<br>• Prenatal chromosome analysis (requiring culture) |
| **Routine** | **42 days** | • Standard paediatric microarray<br>• Common aneuploidy testing (non-urgent)<br>• Standard single gene and gene panel sequencing<br>• Standard targeted testing (e.g. for specific variants)<br>• Known familial mutation testing (with the exception of predictive testing)<br>• Standard STR based analysis<br>• Postnatal karyotyping (e.g. fertility or familial microarray follow-up) |
| **Routine** | **Part a) 42 days** | • Expectation for delivery of centralised WGS (from DNA sample receipt to return of vcf and/or filtered variants to GLH) |
| | **Part b) 42 days** | • Validation/reporting of centralised WGS results after receipt at GLH |
| **Routine** | **84 days** | • Validation testing / confirmation of diagnostic discovery cases |